

August 25, 1956

Dear Sol:

Thank you very much for the lipase and various instructions. I had not been able to get underway as fast as I had hoped, but these experiments are on the agenda for this week. We are between assistants in the lab. now and this has slowed things up. Also, I've been experimenting with the proliferation of protoplasts -viz., the L-form problem, and begin to see my way into it. Proteus works much more easily than E. coli, but the pattern is pretty much the same. In liquid medium, the protoplasts never divide, but can get very large of course. In certain (still not too consistent) conditions, in agar, most of the protoplasts can form "L-colonies". My observations so far point to budding as the mechanism of proliferation, and the granules as lytic degeneration products, but the system needs a lot more work to be quantitated properly. The hypertonic medium is, I am sure, the basic key to the problem; I find it hard to understand how Dienes & Co. got as far as they did without it.

I am enclosing another batch of cultures which should be more satisfactory for you.

W-3133, W-3134 and W-3090 represent the Lac₁ cistron (cf. EML Genetics 1952). I would recommend these in preference to any of your Lac₁'s now in hand.

W-3186 represents Lac₃ (cf. CSH 1951). I have sent a culture that carries a maltose-suppressor, so the phenotype is lactose- glucose- maltose+; it is essentially the same as W-327 (Doudoroff et al 1949) but prototrophic. Keep it on maltose to minimize selection for reversions.

W2411-20 are a batch of Lac- mutants Esther got from the M- Constitutive, W-1301, which was selected with neolactose. They are all different from our basic testers but may be ~~mischaracterized~~ iso-cistronic with some. We don't know much more about them offhand. W-2417 is carrying Lac_{4b}. The tubes are rather old; if more than a couple don't grow out let us know but they should be ok.

Yours,